

**NATIONAL OPEN UNVERSITY OF NIGERIA**

**PLOT 91, CADASTRAL ZONE, NNAMDI AZIKIWE EXPRESSWAY, JABI - ABUJA**

**FACULTY OF SCIENCES**

**DEPARTMENT OF PURE & APPLIED SCIENCES**

**NOV.EMBER, 2018\_2 EXAMINATION QUESTIONS**

**COURSE CODE: CHM 311**

**COURSE TITLE: PETROLEUM CHEMISTRY**

**COURSE UNIT: 2**

**INSTRUCTIONS: ANSWER QUESTION 1 AND ANY OTHER 3 QUESTIONS**

**TIME ALLOWED 2 HOURS.**

**QUESTION 1**

a). Explain the term Catagenesis. **(7 marks)**

b). Explain the term pour point. **(3 marks)**

c). Why is it necessary to treat natural gas before use? **(7 marks)**

d). Explain the following terms: (i) Salt content, (ii) Sulphur content (iii) Ash content.

 **(8 marks marks)**

**QUESTION 2**

a). Describe catalytic methanation **(7 marks)**

b). Explain in detail how natural gas can be formed. **(8 marks)**

**QUESTION 3**

a). Explain in detail the composition of crude oil. **(4 marks)**

b) Write the chemical equation for main stream reforming reactions. **(2 marks)**

c). Discuss the uses of ammonia. **(5 marks)**

d). Define the following terms: oil field and Oil well. **(4 marks)**

**QUESTION 4**

a). Explain the term cracking as used in Petroleum chemistry. **(2 marks)**

b).Explain the terms diagenesis and mutagenesis. **(11 marks)**

c). Explain in detail the origin and formation of biogas. **(2 marks)**

**QUESTION 5**

a). what are the safety procedures required for handling natural gas? **(4 marks)**

(b) Mention four none-hydrocarbon compounds found in crude oil. **(4 marks)**

c). List the major classes of crude oil. **(6 marks)**

(d) Mention two plausible methods for developing deepwater non-associated gas fields. **(1 marks)**